APPLESAUCE

September 1989 $2.50

Registered by Australia Post • Publication No. SBH0229

South Australian Apple Users Club, Inc.

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Membership Fees

Individuals or Schools	$30.00
Corporations / Businesses	$50.00

Extended memberships available

Library Disks

Public Domain disks

Apple][(5.25")	$4.00 ea
Apple][GS (3.5")	$7.00 ea
Macintosh	$8.00 ea

Boxes of 10 blank disks

5.25" DSDD	$10.00
3.5" DSDD	$30.00
Disk Catalogues 1989	$2.00 ea

All programs supplied on club disks have been written using original Apple equipment; no guarantee is given by the club for use of programs on Apple compatible computers.

Postal rates for disks

1 to 9 disks add	$2.00
10 disks add	$3.00
Greater than 10 disks add	$4.00

The above rates include Australia Post insurance worth $50.
Please add an additional $2.50 for insurance cover worth $200.

Public domain disk purchases of $20 or more from S.A. country members (Postcodes 5200 or greater) or interstate members will be posted FREE. The additional insurance charge of $2.50 is still payable if you require the extra cover.

Meetings
Apple II meetings are held at 7.30pm on the 1st Friday of each month; Macintosh meetings are held at 7.30pm on the 3rd Friday of each month, at the rear of the Prospect Town Hall, Prospect Road, Prospect.

Contributing Articles
Articles will be accepted from anyone wishing to contribute material for publication in the newsletter, provided it is oriented towards Apple computers.
It can be of any topic relating to Apple computers, and may be typed printed normally spaced on standard A4 paper, or preferably on disk as a plain text document. Send articles to the Newsletter Editor c/- above postal address or hand to a club committee member at any meetings. All disks will be returned.

Members who contribute an article with a length of two pages or greater will receive their choice of club disk from the library on request.

Advertising
Small advertisements (quarter page or less) from financial club members will be accepted and published free of charge provided they are signed by the person(s) placing the advertisement.

Business advertising rates are by negotiation or as follows:

1/4 page	$18.00
1/2 page	$30.00
Full page	$50.00
Back cover	$70.00

All advertisements will be printed under the proviso that they do not conflict with the best interests of the Club.

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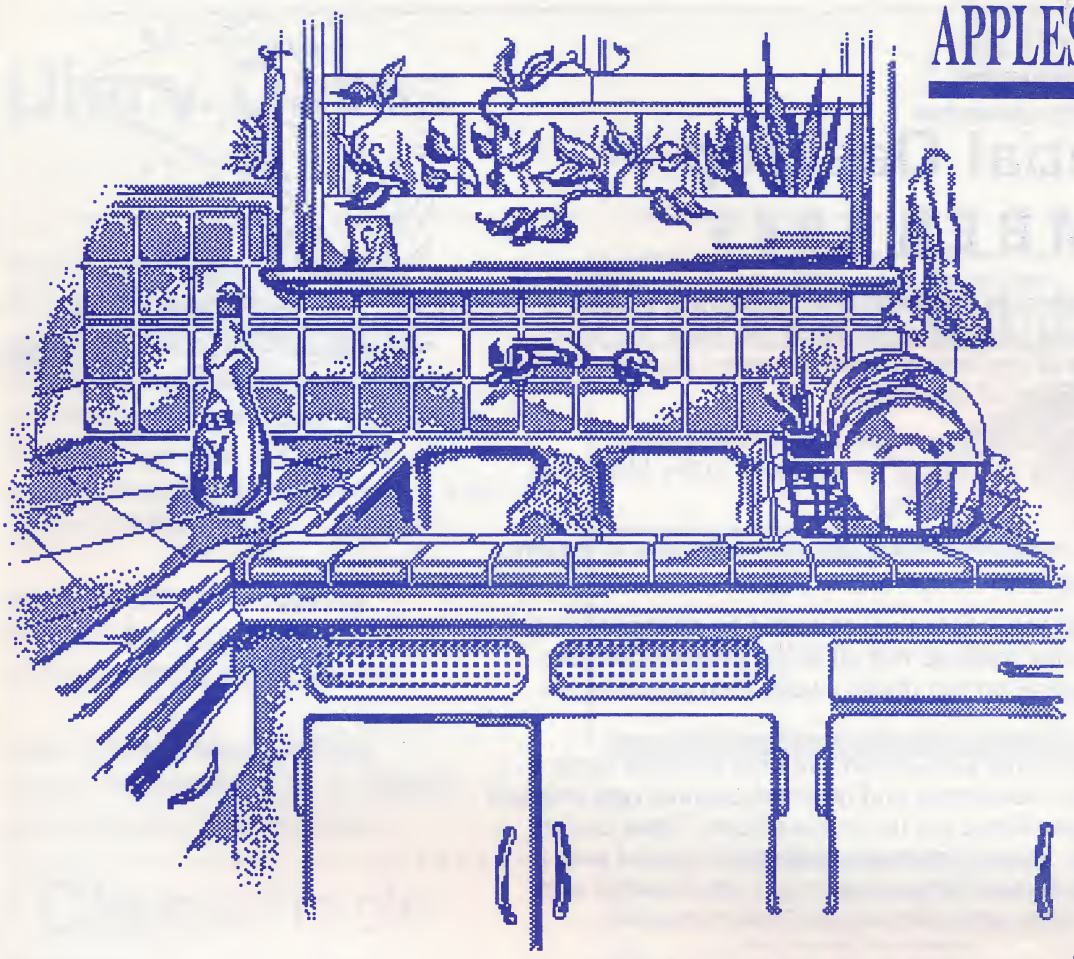

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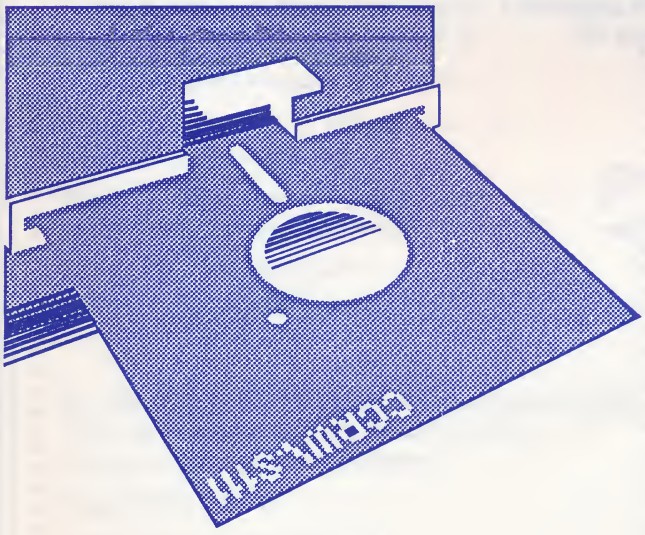
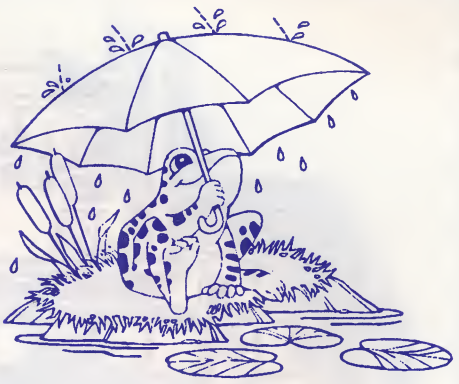


Presidential Desktop

SEPTEMBER 1989



The club have been collecting Demonstration Software to provide a library of disks that could be freely accessed by members. We have collected a good range of applications from numerous sources. The list is published in this addition of Applesauce.

The arrangement for access to this library is by ordering your requirements at a meeting and paying the **cost only of the blank disk**, which is $3.00.

Due to the number of problems of computer virus infections at present, we do not wish to copy these demos to your disks.

The disk will be copied and sent to you, collected by arrangement, or hand delivered at the next meeting. Not all of the programmes have been tested - if you receive on that doesn't work, then please let me know.

Following the National Apple Convention, we have received some copies of training notes, newsletters and other educational type manuals from Apple. We have published the list in this edition. These can be borrowed by members, and will be made available to special user groups to assist their activities. Why not start up a small special user group and develop a better understanding of Desk Accessories.

We suffered rather poor attendances at the past months meeting, probably due to the cold weather, but if you were not there then you missed out on some inside information on the IIGs presented by Keith Zerna, and at the Mac meeting Michael Coleman presented a very interesting talk and demonstration on what to do when you loose your data. Symantec Utilities was used by Michael for the demonstration.

Last year I wrote the following plea for magazine articles -

Once again, I must remind members that the committee require articles for Applesauce. We would like some members who would be prepared to write some regular articles on subjects such as Programming (all languages), Applications (Appleworks, Excel, etc., etc.), Utilities available for Apple][and MacIntosh. I extend our sincere thanks to all members that have provided articles in the past, you have been a part of our magazine and we trust that your support will continue in the future.

We still have a great need for these contributions, please contact the Editors for further information.

I look forward to seeing you at the September general meeting, and the Mac Special Interest meeting.

Regards

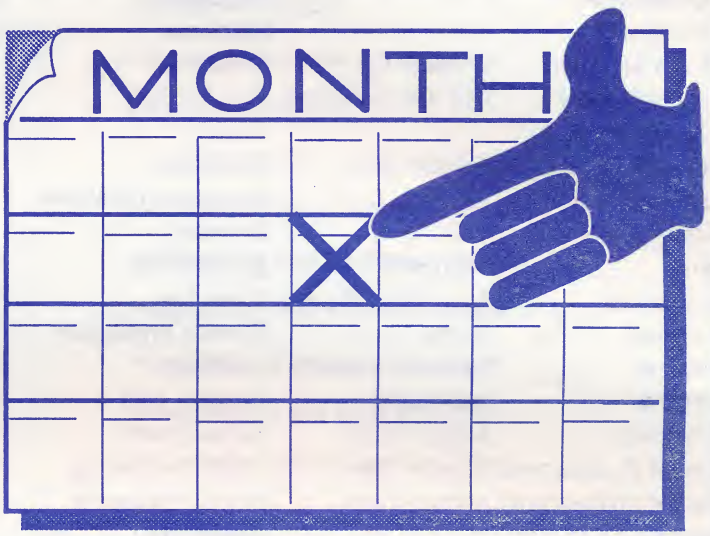
Bob Owen

Diary Dates

Next main Apple][meeting
Friday September 1 at 7.30pm
at Rear of Prospect Town Hall.
This meeting will feature desktop publishing on the Apple][Gs using Publish It V2 and also have a look at output from the ImageWriter][and an Epson MX80.

Next Macintosh meeting
Friday September 15 at 7.30pm
at Rear of Prospect Town Hall.

Next committee meeting
Friday September 8 at 7.30pm
at the Aiport meeting room



Classifieds

Free advertising to club members. Please supply your ads on paper and include your signature. On request ads may be repeated.

For Sale • Wanted • Exchange • Etc

For Sale: Games for the Apple // series

GhostBusters, Alcazar, Bards Tale II, Marble Madness, Airheart, Bruce Lee, Captain Goodnight, Murder on the Mississippi, Hacker II.

All with original manuals and boxes.

Will sell as a bundle or will separate. Any reasonable offer accepted.

Phone 2650364 between 3-4pm or After Hours and ask for Keith Zerna or see me at the meetings.

Phone 269 1278 bus hours or

(085) 56 2529, or 79 4287 ah.

For Sale: Apple][e, 80 col card, Super Seerial card, 2 disk drives , (no monitor) $600 Excellent condition includes some software.

ImageWriter I $450

Contact: Bob Owen 293 1313

Magazine closing date

for the October magazine –
Friday September 14
at the Macintosh meeting

Coming events

October Club Meetings

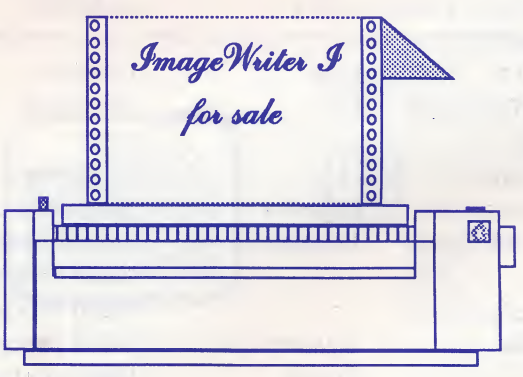
Main meeting – October 6
Mac meeting – October 15

Magazines

If you are holding any of the club's magazines, please return them to Michael Coleman so that others can borrow them.

AppleWorks Templates

If anyone is interested in AppleWorks Templates, please contact George Wisenberg at a meeting.



APPLESAUCE Demo disk library

TITLE	DISTRIBUTOR	TYPE	VERSION	COMMENTS	File Size
4th Dimension		Database	1.0.6	Application Disk	737K
4th Dimension		Database	4.0	Data Disk #1	761K
4th Dimension		Database	4.0	Data Disk #2	306K
Click Art Sampler	T/Maker Co.	Graphics		Images from ClickArt series	264K
Multi Ad-Creator	Trio Technologies	Graphic Arts	1.0	Advertisement creator	717K
CricketGraph		Graphs	1.0	Graphical display of data	215K
dBase Mac	Ashton-Tate	Database		Faulty	631K
Double Helix II		Relational database		Generates applications	
Dreams	IDD	Drawing		Includes sample files.	775K
Excel	Microsoft	Spreadsheet	1.5		170K
Expressionist	Allan Bonadio Ass.	Formulae	2.0	Mathematical Formulae	243K
Fast Forms	Shana	Forms Constuction	1.1	Forms Construction Kit	350K
Filemaker	Nashoba Systems	Database	4.0		740K
FreeHand	InfoMagic	Graphic Arts	2.0	Slideshow Tour	785K
Full Impact	Ashton-Tate	Spreadsheeet	1.1	Limited working version	766K
Fullwrite Professional	Ashton-Tate	Word Processing	1.0	Applications Disk	781K
Fullwrite Professional	Ashton-Tate	Word Processing	1.0	Dictionary Disk	760K
Hyper #1		Hypercard		SmartForms Design Tour	778K
Hyper #2		Hypercard		S.Form Assistant, Formulator	738K
Hyper #3		Hypercard		Empire Ridge (Faulty)	761K
Icon-it!	Olduvai Software	Icon Developer		Time limited demo	94K
Illustrator 88	Adobe	Graphic Arts	1.0	Slideshow Tour	777K
ImageStudio	LetraSet	Image processor			388K
Intermail		Desk Accessory			275K
MacDraft	IDD	Drafting/Drawing			229K
MacDraw	Claris	Drawing			
MacDraw	Claris	Drawing	1.9.6		
MacPaint II	Claris	Paint			
MacProject II	Claris	Project planning			
MacWrite	Claris	Word Processing	5.0		
Nisus		Word-processing			
Pagemaker	Aldus	Desk-top Publishing.	3.0		
Persuasion	Aldus	Presentations	1.0		
PowerDraw		3D drawing			
Profits		Database/charting		Application and Data	400K
Quickeys	CE Software	Keyboard macros	1.1		86K
ReadySetGo	LetraSet	Desk-top Publishing.	4.0a		
Statview II	Pica	Statistics			
Statview SE + Graphics	Pica	Statistics		Suits Mac Plus and SE	
Sun Clock					
Swivel 3D	Pica	Graphics		three dimensional	
The Big Thesaurus	Pica	Thesaurus			601K
Versacad		CAD			
VideoWorks		Animation			
Wings Macintosh	Informix	Spreadsheet	1.0		
Wingz Test Flight	Informix	Spreadsheet	1.0		
Word		Word Processing	3.0		
Word Perfect		Word Processing			
WriteNow	T/Maker Co.	Word Processing	2.0		
Xpress	Quark	Desk-top Publishing.	1.11		743K

Training manual library

APPLESAUCE

TITLE	DESCRIPTION
Everything You Need to Know About Computers (but were afraid to ask Kids)	
Using the Macintosh in Education	Education Resouce
Using the Macintosh in Primary School	Education Resouce
Using Computers in Primary School	Education Resouce
Integrating Digital Equipment Corporation	Networking and Communications
Integrating MS-DOS based PC's	Networking and Communications
Connecting to IBM Hosts	Networking and Communications
Networking the Macintosh	Networking and Communications
Wings for the mind - July 87	Newsletter of the Aust Uni. Con.
Wings for the mind - June 88	Newsletter of the Aust Uni. Con.
Wings for the mind - February 89	Newsletter of the Aust Uni. Con.
The Apple Australia Special Education	Resource Directory
The Apple IIGs Software Directory 1987	Software Directory 1987
Introduction to the Macintosh	Training
Mastering Macintosh	Training
Using the Macintosh in Screen Printing	Training
Learning Macwrite	Training
Desktop Publishing on the Macintosh	Training
"On Your Mac - Ready,Set,Go!"	Training
Getting to work with Microsoft Works	Training
Using Macintosh Desk Accessories	Training
Getting What You Font from your Macintosh	Training
Macintosh and Music	Training
IIGs and Music	Training
Learning MacWrite 5.0	Training
Quick Guide to MacDraw	Training

These demonstrations disks, books and training manuals are available from the various club librarians, for further details see the Presidential Pen (page 3), or contact on of the club's librarians. As more items are received this list will be updated.

SoftSwitch Review

by Terry Cass
Reprinted from GS Users

The Apple IIGS is amazing. It runs just about any software written for the earlier Apple II computers. And it has impressive sound and graphics, making it a natural for graphics, music, and games.

But it's also much more expensive that the workhorse Apple, the IIe. And hard-nosed, working computer users demand machines with substance (read 'power' and 'productivity'). They're not so impressed with dazzling art or booming sound.

So why trade your veteran IIe for an Apple IIGS. SoftSwitch is one very persuasive reason.

Save The Universe Or Save Your Job?

In its simplest form, SoftSwitch is a program switcher for the Apple IIGS, an application that lets you load three different programs into your expansion memory card and move freely from one to the other and back again. Since the programs are stored in RAM, not on disk, each move takes only a couple of seconds.

Those who have never experienced the luxury of abundant RAM might be impressed by this feature alone. Others may suspect that the ramdisk capability built into the Apple IIGS could provide similar results.

Actually, though, SoftSwitch is far more than a mere program switcher. In fact, it's like having three computers running at the same time.

Consider this: You're at work. It's your lunch hour, so you load your favourite game and play all the way to level 33. No one has ever been this far before. You hear the clock click - one o'clock. Should you save the world or your job?

Instead of facing this dilemma, you simply press the Open-Apple-Control-Escape sequence on your business-bound Apple IIGs. Now you're inside the Desk Accessory Menu. In addition to the Screen options, you see SoftSwitch listed as a Classic Desk Accessory.

You enter the SoftSwitch screen and press a few keys. Suddenly you're back in your word processor, exactly where you left off an hour before.

Suspended Animation

Unlike a ramdisk, SoftSwitch stores the entire contents of the computer's active memory in one of three SoftSwitch workspaces on the expansion memory card. When you want to revert to a previously saved application, that workspace is restored to the active memory area in exactly the same condition as it was when you left it.

You can stop work on a program at any point and save it in a state of suspended animation. When you switch back to that program, everything is just as it was before. This is the major benefit of SoftSwitch.

It's not hard to think of some potential applications. Load a word processor and a spelling checker. After a little practice, they'll work together so smoothly you'll forget they're separate programs. Let a co-worker or friend use your computer, without the inconvenience of saving your data or text files and rebooting later. As the mood strikes, you can play a game, write a program, and update your database without missing a beat as you juggle jobs.

More Than A Switcher

As noted earlier, however, SoftSwitch isn't just a program switcher. Part of the package is several utilities to simplify a variety of tasks.

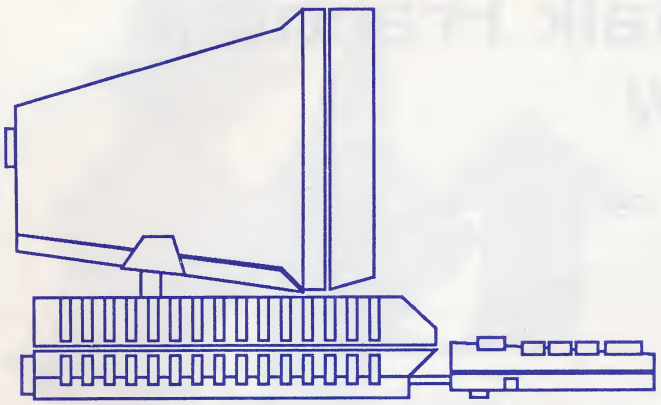
'Install' adds SoftSwitch to a hard disk or any ProDOS-16 System Disk. The entire process takes about five minutes. Once done, SoftSwitch automatically loads whenever that disk boots. In effect, SoftSwitch becomes an integral part of your Apple's operating environment, always available from the Desk Accessories Menu.

Have you ever wished you could capture a hi-res screen from one program and then paste it into another? SoftSwitch's 'Screen Manager' captures and moves hi-res and double-hi-res screens, as well as 40- and 80- column text screens. Captured screens can be saved directly to disk or passed between graphics utilities.

Screen Manager can even transport graphics from one operating system to another. For instance, you could create a picture with Baudville's Blazing Paddles (DOS 3.3) and move it to Broderbund's Dazzle Draw (ProDOS). Once the graphic is pasted in, the receiving program can manipulate the image just as if it was an original creation.

'Keepsake', another utility on the SoftSwitch System Disk, saves the entire contents of a SoftSwitch workspace on a 3.5 inch disk.

That means you can keep that interrupted game indefinitely. When time permits, you can use Keepsake to reload the game at the exact point you left. This ability to trap and save the entire contents of active memory suggests several other more mundane, though practical, possibilities.



Lots Of Memory

Two characteristics distinguish great utilities from the merely interesting: usefulness and versatility. The more experienced you become with SoftSwitch, the more uses you'll find for it.

However, any program that tries to interact with the overwhelming array of operating systems and software available for the Apple II line is bound to encounter some incompatibilities.

SoftSwitch works with DOS 3.3, ProDOS 8, and most earlier versions of ProDOS. It is not compatible with ProDOS i.1.i since that version prevents normal access to the Apple IIGS Desk Accessory Menu.

Nevertheless, it's usually quite simple to replace ProDOS 1.1.1 with a different version or to bypass that operating system by loading programs from the DeskTop.

Likewise, SoftSwitch cannot switch ProDOS-16 applications. Those programs often require massive amounts of memory - usually 512K or more. To support the three auxiliary workspaces and the active workspace under such conditions would require two megabytes (or more) of expansion. Most Apple IIGS owners just don't have that much RAM.

Even with out support ProDOS-16, SoftSwitch gobbles memory in large blocks. Each workspace demands 133K of expansion card RAM. Therefore, a IIGS with a total of 512K can use only one of the three available storage workspaces. Under this condition, true switching is impossible.

SoftSwitch's publisher suggests a minimum of 512K RAM on the expansion card. When added to the motherboard's standard 256K, this means a minimum total of 768K. Users who want to maintain a small ramdisk and use SoftSwitch to full advantage will need a full megabyte or more of extra RAM.

Nasty Combinatio

There are other incompatibilities as well. A few programs prevent access to the IIGs Desk Accessory Menu, making SoftSwitch inaccessible. AppleWorks 2.0 needs kid-glove treatment because it interferes somewhat with the normal operation of SoftSwitch. Flight Simulator just doesn't function.

Some protected programs force you to use their Quit option before going on to other software. In addition to booting the next disk, these Quit routines sometimes clear all RAM.

For these, and most other compatibility problems, the thorough manual suggests relatively simple fixes. More serious problems are explained with refreshing candour.

To help familiarize users with SoftSwitch, the manual also includes an excellent, step-by-step tutorial. Once you've finished the tutorial, you should have little trouble using this utility with your own combination of programs.

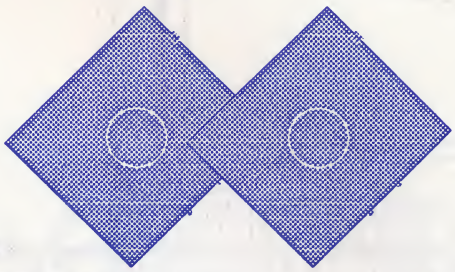
On the whole, SoftSwitch is a thoughtfully designed and skillfully implemented utility that provides impressive capabilities never before available to Apple users. Good value for the money, a 30-day "unconditional guarantee of satisfaction'" and long-term technical support make it a noteworthy bargain.

APPLESAUCE

MathTalk Fractions Review

by Terry Cass

Reprinted from GS Users



"Welcome to Mathtalk Fractions". That's how the synthesized yet realistic voice of Professor Matt A. Matics greets you when you boot up Mathtalk Fractions, and indeed his friendly approach sets the tone for the whole program. The Professor reappears frequently throughout the modules to introduce activities guaranteed to seduce kids into trying drill and practice problems covering fractions, decimals, and percentages.

Although the program includes no real tutorials, Mathtalk Fractions is motivating and effective nonetheless. Make sure you have enough RAM though this one requires 768K just to get off the ground.

EXPLANATIONS

Mathtalk Fractions comes on one 3.5" disk, and contains a 35 page booklet with a description of the program's objectives, an overview of activities, there are no specific lesson plans or teacher student support such as worksheets.

The first several pages of documentation define terms such as fraction, lowest terms, decimal, and so on. The remainder explain how to convert fractions to decimals and percentages, and how to reduce fraction to lowest terms.

I'd much rather see a disk tutorial. Kids who don't understand fractions aren't likely to stop playing long enough to refer to a wordy text. Pairing weak students with better ones in co-operative learning and play situations may overcome this shortcoming, though. This leaves the tutoring to able students and lets Mathtalk work as good drill and practice.

TAKE YOUR PICK

From the main menu, you can choose one of four activities - Problem Factory, Fraction Shuffle - Fun House - and Team Challenge.

Problem Factory

Here you create your own three part equation for decimals or fractions. Enter the parts of your multiplication, division, subtraction, or addition equation at the top of the screen. The whole line might look something like this:-

```
44.2 X 10.5 = ?
```

Having created your own question, you now have to answer it. The program lets you know whether you're right or wrong and awards points for correct answers.

The problem factory is the least impressive of Mathtalk's activities. For one thing, the only "problem solving" here is figuring out how to enter the operand sign into an equation without any clear instructions. Second, it's misleading to call this activity a Problem Factory. It's simple calculation, not problem solving. Finally, without guidance most students would select activities they perform well to get the greatest number of points rather than practise weak areas. The program should do some pretesting to determine weak areas and start students with those.

Fraction Shuffle

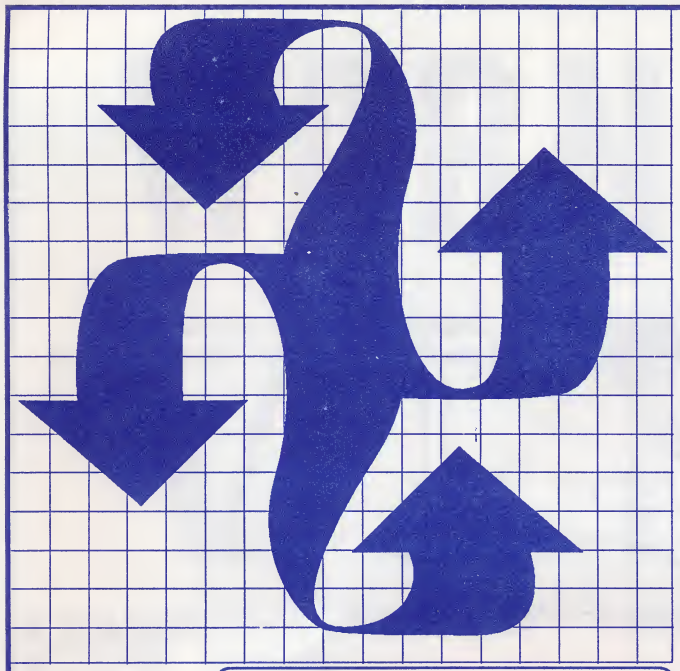
Blackjack fans should enjoy this activity. You can "wager" your accumulated points on any of 12 common fraction questions in a round of this game. Each problem is hidden behind one of 12 playing cards displayed on screen. Pick a card and you'll get a question like:-

2/3 X 3/1 = .

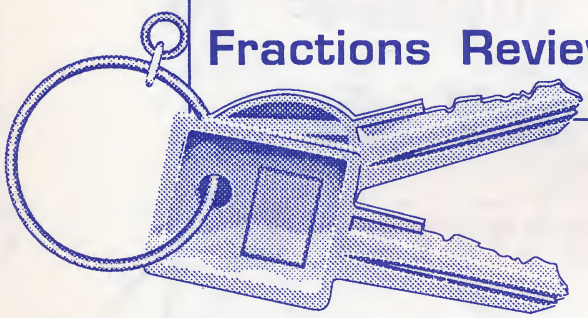
Again the student practises the four basic processes and must answer with lowest terms proper fractions, mixed numbers, or whole numbers. This activity has some merit if you overlook all the work you have to do with paper and pencil. The answer is the only thing you enter into the program. On the positive side, the wagering challenge and colourful graphics are incentives to play Fraction Shuffle. In the process, many students may increase their skill in reducing fractions to their lowest terms. Again, pairing students will add a tutorial element.

Fun House

The three amusing activities here Popper, Lazer, and Coin Drop make the most of the IIGS' graphics to attract students to equivalent fraction problems and conversion of common fractions to decimals and percentages. Popper simulates a circus dart throw. Each correct response fires a dart and pops a balloon to score points. You can play the easy (for two points), medium (for three points), or difficult (for five points) game. The sizes of the numerators and denominators determine the level of difficulty. The main skills tested here are finding the common denominator and reducing the answer to lowest terms.



MathTalk Fractions Review



I liked Popper, waiting to hear the balloons "pop" motivated me to figure out the answers. My only complaint is having to wait a good 15 seconds for the program to retrieve each new question.

The Lazer game uses two types of questions to drill students on lowest terms and equivalence of fractions. In one form, you examine a rectangular box divided into equal segments, some of which are coloured. The task is to determine the fraction of the box that's coloured. For example, in an eight segment box with four sections coloured red, one half of the box is red. For youngsters who haven't grasped the concept of fractions, the boxes provide a more concrete model.

The alternate questions require a little more thought. These are true or false questions comparing whether or not two fractions are equivalent. For example:-

```
Does .19 equal 3/20?
```

To answer, you have to convert both numbers to the same type, decimal or common fraction and then decide. This activity forced my students to evaluate relationship between decimals and common fractions. That's a better approach than programs that simply require recalling facts.

Coin Drop is a variation of the old probabilities game in which you guess the number of times a flipped coin will turn up heads or tails. The Professor's elaborate machine drops, flips, and flops the coins after you guess the outcome for a set number of tries. It's cute, but any learning here occurs after the game when you convert the outcome (say six heads out of ten drops) to fraction and percentage scores. Every time you're correct, you score points.

Team Challenge

In the Team Challenge, you compete for points in a game show format to practise fraction, decimal, or percentage questions. From a gallery of six whacky characters with names like Amelia Brainer, Ida Know, and Bart Reducer, you choose a team of three against whom you'll compete.

Some characters are better at maths than others. Beating the top players (those identified with four asterisks) gets you 40 bonus points. You get only ten points for beating the easy characters. For any red blooded sixth grade kid, the challenge to go for the high score will be irresistible.

At the easy level, Team Challenge focuses mostly on adding and subtracting fractions and decimals. Other questions at this level test your ability to convert mixed numerals back and forth.

The harder level challenges your knowledge and mental agility as you equate ratio, decimal, fraction, and percentage expressions within a brief time limit. For example, you may have to express 13/52 as a percentage. This a subtle, effective way of making you apply the rules for finding equivalent fractions. Playing this game often enough will increase your understanding of the meaning of fractions and relationships between terms such as ratio and percent.

Team Challenge will also reinforce knowledge of processes. For example, one question may ask you to divide 8.973 by 0.38 and show the answer to the nearest hundredth. If you don't know the process, you'll need to refer to the back of the documentation for the proper steps. Because that would cost you points, learning the process becomes important.

FINAL MARKS

The IIGS is an exciting machine. Most teachers would prefer, however, to see its capabilities for sound and graphics matched with software that tutors students. Nevertheless, good drill and practice still has its place.

You can use Mathtalk Fractions effectively to reinforce essential concepts and processes and to promote understanding of the relationships among decimals, percentages and fractions. Mathtalk gets a B from the teacher, but an A from the student.

Random Lines

Peter J. Carter

It started with that screensaver on the Mac SE/30 waiting to show its paces. Instead of the jumping clock, the bursting fireworks or the streaming spots it was a set of lines and shapes which traced an erratic course across the screen. Quite mesmerising.

All it needs is a queue or two to keep track of the positions and angles of the lines:

```
TO StartLines
CS HT FS SETH 0
Lines :startPos :startAngle
END

TO Lines :positions :angles
LOCAL [pos angle]
PU SETPOS FIRST :positions
SETH FIRST :angles - 90
FD 5
MAKE "pos POS
RT 80 + RANDOM 20
MAKE "angle HEADING
SETPC 1 + RANDOM 5
PD FD :length
SETPC 0 PU
SETPOS LAST :positions
SETH LAST :angles
PD FD :length
Lines FPUT :pos BL :positions FPUT :angle BL :angles
END
```

```
MAKE "startAngle [90 90 90 90 90 90 90 90 90 90 90 90 90 90 90]
MAKE "startPos [[0 0][0 0][0 0][0 0][0 0][0 0][0 0][0 0][0 0][0 0][0 0][0 0][0 0][0 0][0 0]]
MAKE "length 90
```

By starting out with queues full of dummy values we avoid the problem of building them up and deciding when they're long enough. You can have as many values as you like (use the editor's copy function), the more values the more lines on the screen at once. You can also play about with `:length` and the `RANDOM` values. Instead of plain lines, try shapes, with a procedure in place of `FD :length`.

WARNING!!

VIRUS

14 Various Virus detectors

16 The nVIR Virus

17 Interferon Reporting

18 Some history about nVIR

18 Protecting yourself ...

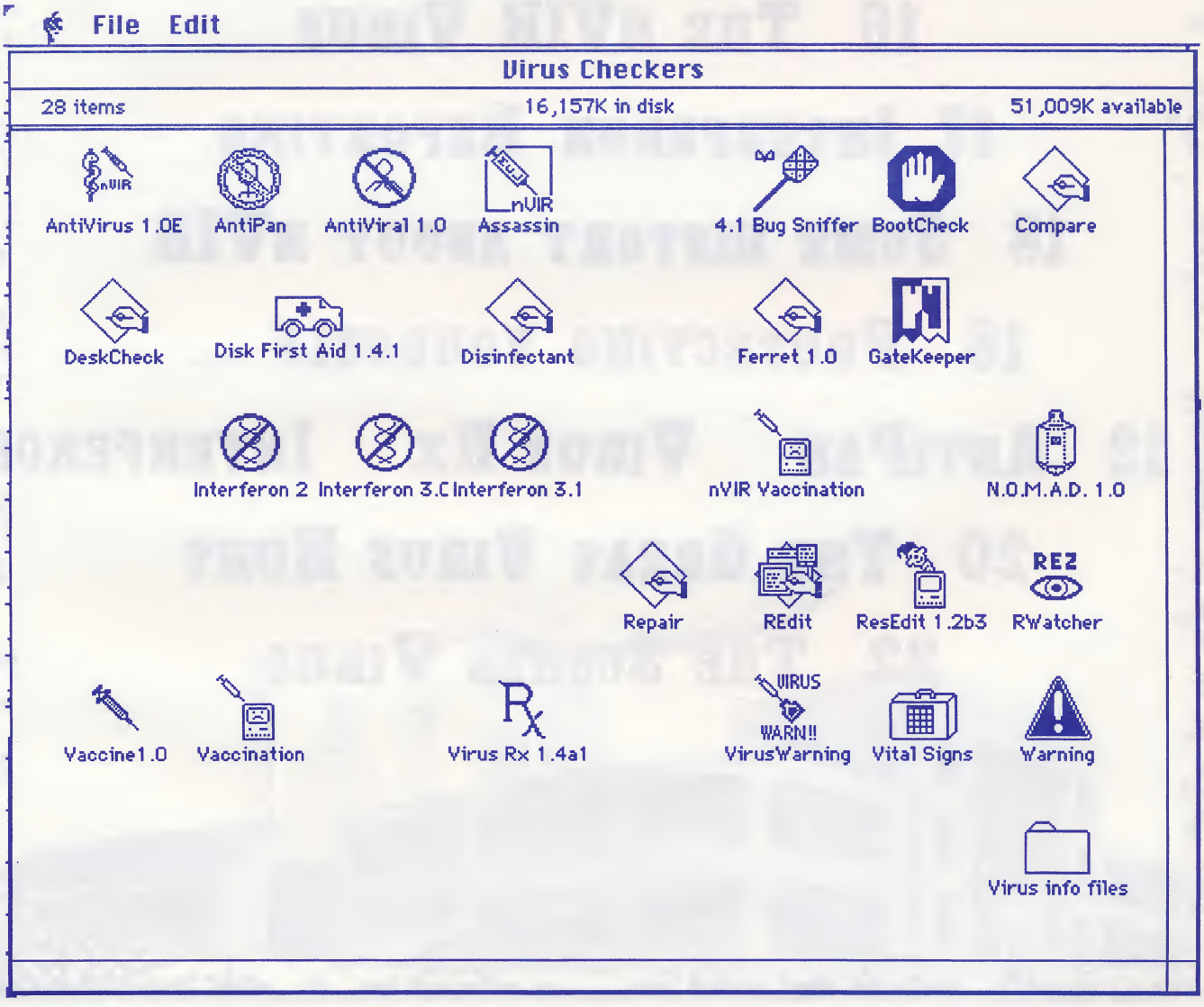
19 AntiPan Virus Rx Interferon

20 The Great Virus Hunt

22 The Scores Virus

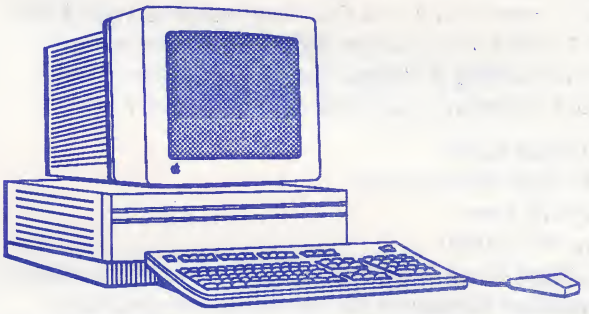
WARNING!!

VIRUS



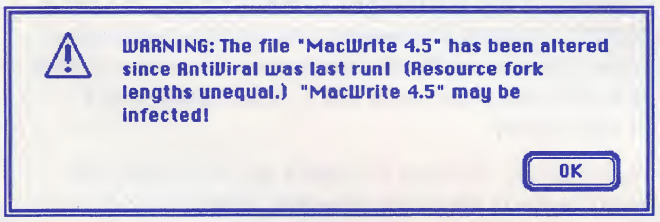
VIRUS REPORT

At the August Mac meeting at the town hall an interesting discussion on the computer virus problems prompted me to put together the following bits and pieces. Most of it comes from the documentation accompanying the various virus checker programs around. I find I disagree with many of the 'rules' set forth in various solutions – but what may work for one user does not necessarily follow for all .....



AntiViral 1.0 is an application which is designed to help you prevent your computer system from succumbing to a viral infection. It does this by monitoring the size of applications (the files by which infection is most frequently spread) and alerting you when applications change size between one run of AntiViral and the next. To be effective, AntiViral must be run frequently--at least weekly, and more often if your system has many users or you often add new software or disks.

AntiViral 1.0 is copyrighted ©1988 by Chris Klugewicz. All rights reserved. AntiViral is shareware: you may try it for 15 days, and if you decide to keep it, you are obligated to pay for it.


WARNING: The file "MacWrite 4.5" has been altered since AntiViral was last run! (Resource fork lengths unequal.) "MacWrite 4.5" may be infected!
OK

AntiVirus is very slow and will crash your hard disk if you stop it in the middle of a search for the nVir virus. It will repaira infected file.

Boot Check is a simple security system designed to keep irritating visitors off of your hard disk. This is done by performing a security check when starting the system.

Boot Check was written by John Rotenstein / 2/88. Mail: PO Box 165, Double Bay NSW 2028, AUST. ARPA/UUCP/ACSnet: johnr@runx.ips.oz.au

4.1 **Bug Sniffer** is a quick hack to help get a grip on the plague of crashing programs that appeared with the advent of System 4.1.

These are mainly programs compiled with the Megamax C compiler, which uses an undocumented low-memory variable called "BasicGlob" (so-called because it was to have been used by Apple's never-released Mac Basic). When System 4.1 came along, this was the last unused low memory variable, so Apple used it to point to a block of new ones.

This all works fine, until a Megamax C application comes along, and trashes that pointer. The Macintosh then crashes.

DeskCheck, a tiny application which checks to see that everybody's bundle (BNDL) is correctly constructed. Errors in bundle construction can propagate to the desktop file, causing no end of trouble for the Finder, including system hangs and bombs, and an unusually bloated Desktop. Finder 5.3 is relatively good about protecting itself, but earlier Finders were sitting ducks. Note that DeskCheck only looks for problems. Beyond telling you, it doesn't *do* anything about them. That's a job for ResEdit.

As a Mac application, DeskCheck is a sorry example. It's utterly modal and provides only minimal user control over the files to be checked. Its purpose, however, was to quickly find problems in a large collection of PD and shareware stuff. Since the source code is included, someone with lots of spare time can improve the user interface.

Interferon is a program that detects and destroys digital viral infections. It currently recognises the modus operandi of several of the virus strains, and will be updated to recognise other strains as they appear.

Inteferon is FREE. Although it is a copyrighted program (and not public-domain!), you have my permission to reproduce and distribute it as much as you want. In fact, spread it far and wide - as far and wide as the plauge it is intended to cure.

However, if Interferon helps you kill viruses on your computers, please consider how much time the program saved you (killing infections by hand takes hours!). How much was that time worth to you? $10? $50? $100? Only you can judge. However, please consider writing a cheque for some fraction of that amount (whatever you think fair) and send it to:

The Vision Fund
c/o Sir-tech Development
10 Spruce Lane
Ithaca NY 14850

The Vision Fund was set up a few years back to take in "Shareware" donations for my shareware products (currently 3: Reversi, MandelColor and Interferon). All the proceeds go towards buying some special hardware for a visually impaired computerist. He is going into college this year and we hope to get him something really decent. Anything left over will go to one or more major charities.

Virus Rx (©1988, Apple Computer, Inc.)

Run Virus Rx from a locked floppy disk.

Virus Rx will list damaged applications, INIT, cdev and RDEV files, invisible files, altered system files, and altered applications. Use the scroll bar to read the entire list in the Virus Rx window. Virus Rx reports different levels of concern, from simple comments to "dangerous" to "fatal."

Virus Rx first lists damaged applications. Damaged applications have not been infected by the virus, but they will not work and should probably be removed from your disk.

The program next lists all INIT, cdev, and RDEV files (such as the Easy Access, Mouse or AppleShare files) in your System Folder. Many of these are common, but you should make sure you know why they are on your disks.

Some files are normally invisible; Virus Rx checks these and lists them.

AntiPan This program is a disinfectant for the MacMagnVIR virus which has been spresding at Otago University. This virus is relatively inoffensive. It will only cause beeping (or speech if you have MacinTalk), sometimes when you open applications. However it uses up space in memory and on disk, which could cause problems.

The nVIR Virus

-How the nVIR Virus Spreads and What It Does

The nVIR virus is similar to the Scores virus in many ways. It does not appear to have malicious intent and is relatively harmless. Initial infection of a system is also caused by an application with a modified CODE ID = 0 resource. When a nVir carrier application is launched, the virus' code segment is executed first. This code checks for its INIT in the System File, and if it doesn't find it, the code copies the INIT there.

Along with the INIT resource, eight 'nVIR' resources (0-7) are added to the System file.

The next time the system is restarted, the INIT ID = 32 is loaded into memory and tries to infect every application that is launched. The nVir virus adds a CODE ID = 256 resource and modifies the CODE ID = 0 so that the nVir code is executed first.

Again, infection of an application is determined by examination of the CODE ID = 0 resource. If the eleventh word of the resource (third word on the third line in the ResEdit listing) is NOT "0001", the application is suspect. If the third word is something other than "0001", convert the value to its decimal equivalent (the numbers are in hexadecimal). Then determine the resource number of the CODE resource at the top of the ResEdit

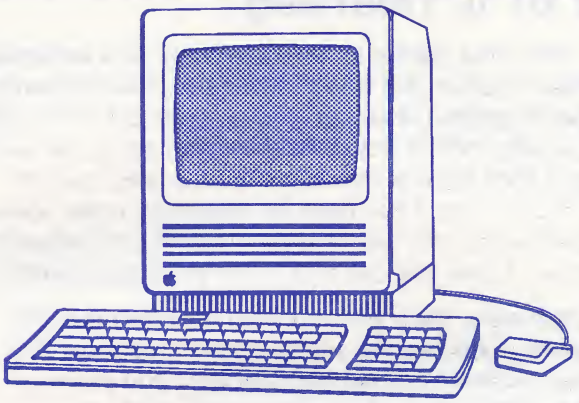
resource list. If these numbers are the same, the application is probably infected, and should be replaced. Some applications will appear to be infected even though they are not. If the eleventh word of CODE ID = 0 is not 1, check the tenth word; if it is '4EED' the application is most likely not infected. The tenth word normally contains '3F3C'.

When launching an infected application, there is a one in sixteen chance that you will hear a short system beep. We have been told that if MacinTalk is installed you will hear the words "don't panic".

How to Get Rid of the nVIR Virus

Remove the nVIR virus the same way you remove the Scores virus except you do not need to throw away all of the files in the System Folder; just throw away the System file.

VIRUS REPORT



The virus is transmitted by applications and by the System File, so please use AntiPan on all your disks which contain applications or Systems. It will confer immunity from the known version of the virus and should detect variants as well.

nVIR Assassin, by Pete Gontier, November and December 1988
kudos, complaints, and bug reports to:
Bloated Toad Software
Microcomputer Labs UCSB
1521 Phelps Hall
Santa Barbara, CA 93106
© Copyright 1988 Regents of University of California
Portions © Copyright 1988 Symantec Corp.
This program is designed to scan volumes on a search and destroy mission for the nVIR virus. It is fairly self-explanatory: run it, and it will tell you what it's doing as it does it. A few things, however, should be noted.

The program was written with a university-type laboratory setting in mind. What this means that one of the design factors was to take into consideration hundreds upon hundreds of disks which might occaisionally need sweeping (fortunately, this is not yet a reality, at least at our facility). If it is inconvenient for any reason, please consider this notion before deciding the interface is flawed.

The Eject button in the opening dialog WILL eject a hard drive. This is a feature, not a bug. The Eject button will, in fact, eject anything it can get its hands on but the startup volume.

VirusDetective™ Viruses leave fingerprints when they infect an application, your System file or any other file. In technical jargon these fingerprints are called resources. What VirusDetective™ does is provide a means to search for these resources using various matching criteria. Before I go further I should mention that the intention of VirusDetective™ is to detect viruses, not to remove them. Unless you absolutely know what you are doing you should not use the Remove button but either replace the infected file or use one of the various repair programs available (several are distributed on the VirusDetective™ disk. Also on this diskette are several pieces of documentation about the various viruses from different sources.) Other sources of documentation include the November 1988 issue of MacWorld.

Virus Warning will beep if it finds a virus being installed.

Current Report Types Generated by Interferon

001 **The SCORES virus.** So named because it puts, amoung other things, a file named SCORES in your system folder. This is the latest and most virulent strain known, as well as the most sophisticated. It replicates rapidly and can cause your machine to behave unpredictably. If any of your applications are infected by SCORES, assume that your SYSTEM FILE has been infected!

002 **The nVIR virus.** This virus places nVIR resources all over. Simpler than SCORES, but just as much a pain.

003 **VULT/ERIC.** This is a Warning. The SCORES virus is be looking for the string VULT or the string ERIC as a file creator or type. If you get this warning, please let me know the details.

004 **A SNEAK virus.** This is a virus that adds it's code to a common System folder file and changes it's type to INIT so that it is run at boot time. SCORES does this, although it does other things as well. Type 004 is a generic "Virus sniffer" that detects if common System folder files have been adulterated in this way. If you get a type 004 virus, please get in contact, you may have discovered a new strain.

005 **This is an Anomaly.** It detects when CODE resource #0 jumps to the last CODE resource (call it resource #N) and CODE resource N-1 does not exist. This is a pattern exhibited by SCORES. There may be legitimate applications out there that also have this pattern, thus this is flagged as an anomaly that you should look at further.

006 **This is an Anomaly.** It detects when CODE resource #0 jumps to the last CODE resource. It is not as selective as #005, and so more legitimate applications may have this pattern. You should examine any application that triggers this anomaly carefully.

007 **This is an Anomaly.** It is set off when a CODE resource appears in a non-application or system file. Many legal programs can do this, especially MPW tools.

008 **This is an Anomaly.** It is set off when an INIT resource appears in a non-INIT or system file. Again, this can be perfectly kosher and harmless.

009 **Another Anomaly.** Similar to 008, but looking for cdev's that are wandering far from home.

If you encounter a new viral strain that Interferon does not detect, please let me know as soon as possible so that I can add it to the list and modify the program.

Some history about nVIR, all of it hearsay:

The nVIR virus started in West Germany, in a university professor's office. He was studying the phenomenon of viruses in general when an SE was stolen out of his lab. This is why nVIR is not particularly damaging: the only thing it does besides reproduce itself is keep track of how many times it has done so. However, under some circumstances, this can take up a significant amount of space on a disk and can also cause printing problems.

Unfortunately, there are rumors to the effect that this professor published the source code to his virus! This means that there can be (and probably are) strains of nVIR out there in the big wide world which are more damaging and harder to kill. I have heard of two, so far. One is the original version. The other was reported in MacWeek and is apparently a bit harder to kill off, but I have taken measures to take care of this. I think.

Further recommendations:

" Vaccine", from CE Software. It is a free INIT which asks you to confirm certain sensitive reource changes while other progams are running. This can allow you to avoid infection by most any virus, although it is NOT foolproof.

"Ferret", an application like nVIR Assassin which scans drives to repair them from "Scores" infections.

"Interferon", an application which scans drives looking for a number of different viruses and "shady" files and optionally deletes infectees.

All these programs are available as shareware or freeware on bulletin boards and national on-line services.

The clincher:

If you would like comprehensive repair services for disks which you suspect might already be infected, make sure you get a copy of "Virex", from HJC Software, @ $99.95 list. Their phone number is 919-490-1277. This program eradicates Scores, nVIR, and Sneak, and will be updated to take care of other Macintosh viruses as they appear. Remember, nVIR Assassin was written for the immediate needs of a university laboratory, and will not be updated if I can possibly avoid it!

Pete Gontier

December 1988

Protecting Yourself and Your Users from Software Viruses

(Unknown source)

I totally disagree with most of this, well, it's not that I totally disagree, but there is a bit more to it than the following, which is not necessarily all strictly true .....

Basic Rules:

1. Software to be distributed through a BBS should always be inspected and tested by the Sysop before making it available for downloading. Sysops should never assume users have the expertise needed to protect their systems.
2. Any of downloaded or unfamiliar, non-commercial software should be kept on a floppy disk until its quality and character are determined. Don't put it on your hard disk.
3. Viruses may not always show up immediately, and they may spread or install themselves anywhere in your system, so any piece of non-commercial software should be tested several times before putting it on your hard disk or exposing other application or system disks to it.

A basic method for testing unknown software:

Boot your Macintosh from a floppy disk.

If you have an internal hard disk, unmount it (by dragging its icon into the trash) before running the downloaded software. External hard disks should be turned off.

Using the Finder's Get Info or Print Catalog menu items, note the sizes of your operating system and related files. The size of the system changes when you add or remove fonts, desk accessories or other resources, otherwise it should generally remain constant. Some files, like the Scrapbook or Notepad files, change sizes as often as you use them.

Put the unknown software and a familiar application on a floppy disk. Run the unknown software from the floppy several times over Check the size of your system file and other files in your system folder afterward; watch for changes in size which don't make sense. After using the unknown software, run the familiar application; watch for unusual behavior. Check the size of the application after running it.

Applications generally don't change their size much.

Always backup files and application software on floppy disks or tape (after taking the above steps) to make sure your system is not infected. If it appears your system or applications have been corrupted by a virus, reformat the disk and restore its contents from your backup or original software disks.

VIRUS REPORT

AntiPan • Virus Rx • Interferon

This Disk is a compilation of Virus Protection Software which is composed of three sections. They are ...

1. AntiPan
2. Virus Rx
3. Interferon

We suggest that you run all three in this order to achieve maximum detection and removal of any known viruses. We are unfortunately unable to remove any unknown or more recently developed viruses. Should you suspect that your equipment is being affected by a virus please notify us immediately.

Please do not panic if you think you have a virus, and, to help us in solving your problems we would appreciate it if you took every care to check all other causes of problems in case they are no more than a case of exhausted software or (dare I mention it), operator error.

IMPORTANT
This disk must never be unlocked. A virus cannot infect a locked disk.

The "AntiPan" application was created by Michael Hamil of Otago University. This Application will remove the "nVir" virus from applications and System Files. To start the process, simply launch the "Antipan" application on this disk. This Application will not be able to remove the "nVir" from the Application DA Handler. If you do have DA Handler (an Application which enables MultiFinder to manage your DA's more successfully). This will have to be removed manually and replaced from an uncontaminated set of System Disks.

The "Virus Rx" Application will scan disks for the "Scores" virus. Again the Application should always be run from a locked startup disk to be effective. Documentation is provided on this disk.

"Vaccine" is an Init System File that provides partial protection against viruses. Documentation is also provided on this disk.

For further technical advice and assistance please contact your normal Technical Support channels.

CED (1988) Ltd. accepts no responsibility for any ill effects caused by the use of this Disk. (And neither does Delairco Electronics Limited).

COMPUTER VIRUSES
This article was last reviewed on the 15th of April 1988

GENERAL ISSUES
What is a virus?

A virus is a program with two distinct functions:

It spreads itself from machine to machine (self-reproducing code). This includes the actual infection of other systems as well as the stashing away of code into as many "carriers" as possible. It implements the "symptoms" planned by the perpetrator of the virus. This could be any number of things, up to and including erasing a disk on a specific date.

A Bit of History
Computer viruses have been around for almost as long as computers. John Van Neumann, the father of the modern computer, toyed with the idea of self-reproducing computer code as early as 1948. In the late 1970s, there was even a training ground for the writing of viruses. It was a program called Core Wars that implemented an artificial environment pitting two virus programs against each other.

Viruses Are Not Unique to the Macintosh
The Macintosh is not the only system to be plagued by viruses. Mainframe and minicomputers are also targets for virus programmers. One of the more recent mainframe incidents was the virus that invaded IBM's mail system and brought it to its knees for a couple of days. IBM PC users have been experiencing viruses for several years now. The most common method of attack is through the COMMAND.COM file. The Macintosh community has been lucky to have gone so long without virus programming becoming the thing to do.

Not All Viruses Are Meant To Be Damaging, But...
Viruses are not all meant to be damaging. The programmer may just want to prove he can do it and have the satisfaction of reading about it in magazines and on the BBS network. Sometimes, these viruses can cause problems anyway. For example, the virus that has prompted this series of articles was meant to be benign except in specific cases. However, it takes up memory and processing time and has caused random side effects such as printing problems and system crashes.

Don't Panic; Don't Overeact
If you think that you have a virus, it's important to not overeact. It is important to take a step back and evaluate the situation calmly. Once you know that you have a virus and what it has infected, it is a relatively easy thing to combat. These documents contains enough information for you to be able to deal with most viruses.

Unix Viruses
In all of this, there has not been much discussion of Unix viruses, but they do exist, and the spread of public domain software is almost as great in the Unix world as it is in the microcomputer world.

THE GREAT VIRUS HUNT

When Do You Suspect You Might Have a Virus?

When your computer begins to do things out of the ordinary, or when it stops being able to do things it has always done in the past. The problem with this is that corrupted system files can lead to similar symptoms even though a virus isn't involved. When problems occur, they are much more likely to be the result of non-virus difficulties. When you have ruled out the standard problem areas, you should look into the possibility that your system has been infected by a virus.

What to Look For If You Think You Have a Virus

Look for invisible files in your System folder that don't belong there. Unless you specifically have an application that creates invisible files in the System folder, every invisible file in the System folder should be suspect. Also, a general check of all the files in your System folder for resources that don't belong in those files is well worth the effort.

Files and Resources a Virus Might Infect Any and all applications

HyperCard Stacks (the MacMag virus was spread via a HyperCard stack)

Files in the System folder, including:
System
Finder
Note Pad file
Scrapbook file
Clipboard file
Easy Access
Sound
Mouse
Startup Device
Monitors
Colour
General
Keyboard
LaserWriter
ImageWriter
AppleTalk ImageWriter
ImageWriter LQ
In other words, all system files.

Files a Virus Might Damage Inadvertently Any file on an infected volume or system, including system files, documents, applications, etc.

Public Domain Issues

Most viruses spread via public bulletin board systems and are hidden in public domain programs. "Sexy Ladies," a program distributed at a MacWorld Expo in San Francisco, erased whatever hard disk or floppy disk it was on when it was launched.

Network Issues

The use of networks can easily enhance the spread of a virus. Different scenarios are possible, with the simplest being a public domain folder on a server that everyone gets the latest neat stuff from. Also, shared applications residing on a server could become infected, which would then infect every machine that those applications were run on.

TECHNICAL ISSUES

How Viruses Propagate

Viruses can propagate by a variety of methods. The most common way for a Macintosh virus to replicate itself is to have an INIT that installs a background (VBL) task that checks for specific occurrences, such as a disk insertion, and then copies itself somewhere to that disk.

VBL Tasks

The Macintosh has always had a limited form of background processing available to it through the use of the Vertical BLanking queue. Every time the screen on a Macintosh (except for a Macintosh II) is refreshed, any routines installed in the queue are executed. The Macintosh II has a dummy VBL queue for compatibility reasons since the advent of a variety of screens has led to different vertical retrace periods.

VBL tasks can be installed in the queue by any program. The program has to load a routine into a section of memory and install the routine into the VBL queue by calling the Vinstall ROM routine. It is the responsibility of the installing program to make sure the segment of memory containing the routine remains available even after the program has exited. Each VBL task has a specified time period it should be left "asleep" before it is called. Every time the routine is executed, a counter is decremented for that routine. When that counter reaches zero, the routine is deleted from the queue unless the routine itself resets the counter.

Lengthy VBL tasks such as the one that might be used to replicate a virus can interfere with the normal operation of the Macintosh by interrupting processes that shouldn't be interrupted. A perfect example of this is printing to a LaserWriter over an AppleTalk network. If a VBL task takes too long in its execution, the printing process could terminate abnormally and leave the machine's connection to the network in an unstable state.

For the purposes of a virus, an INIT is most likely to be the culprit responsible for installing a VBL task.

INITs

INITs are routines that are run when the Macintosh is booted. For the most part, they have full access to all of the commands normally available to a standard Macintosh program. The major difference is that the low memory globals have not been set up yet, so any INIT needing access to structures normally stored in low memory must create its own.

INITs in the System file:

When a Macintosh boots, the INITs in the System file in the "blessed" folder are the first code to be executed. These INITs should generally be Apple INITs only -- any non-Apple INITs should be considered suspect.

The INIT 31 mechanism:

A special INIT in the System file, INIT 31, was created to allow for the execution of non-Apple INITs without having them installed in the System file itself. When all of the other INITs in the System file have been executed, INIT 31 walks through the System folder looking for files of types INIT, RDEV, cdev, and executes any INIT resources it finds in these files. The order in which the files get loaded is alphabetical. Needless to say, a simple way for hiding parts of a virus is to drop INITs into legitimate files already existing in the System folder with these file types.

CDEVs

The file type cdev indicates a file containing a Control Panel device. When the Control Panel is loaded, it walks through the directory of the System folder looking for any files of type 'cdev'. When it finds a file of this type, it loads the ICN# of that file (assuming it has one) into the list of icons shown on the left side of the Control Panel. When you click on the icon of the cdev in the Control Panel, the code in the cdev resource in the file of type 'cdev' is executed. A virus could easily use this mechanism as a way to infect a system, install a VBL task, etc.

Many cdev files have INITs in them with the cdev controlling the settings that the INIT will use when it is installed. A good example of this is the settings for a screen blanker. The INIT actually installs the VBL task, but the cdev controls when dimming occurs. None of the standard Apple system cdev files have INITs in them, but there is nothing to prevent a virus installing an INIT in these files as a way of hiding its code.

DRVRs

DRVR resources typically can have one of two functions: they can be the code for a desk accessory, or the code for drivers necessary for the system to perform some function such as printing. Once again, the key word here is 'code'. Whenever code is involved, the potential arises for the perpetrator of a virus to take advantage of it.

Just as with cdevs, when a DRVR gets opened, either by the choosing of a desk accessory or by the system, code is executed at that point. This is the stage at which a virus might fulfil its purpose.

CODE Resources

Each application has at least two CODE resources. The first of these CODE resources has an id of 0 and contains what is known as the jump table. This table provides the basic information necessary for various parts of a program to call routines in other CODE segments. The current rage in viruses is to modify the CODE ID = 0 resource of an application so that a CODE segment it installs in the application gets called before the application is actually run. This CODE segment could go out and check if the virus has infected the current system, and if it hasn't, install itself. All the perpetrator of a virus has to do at this point is upload a copy of an infected application to a BBS, and it spreads across the world.

Applications that allow external procedures:

Viruses could take advantage of the external procedures that are allowed by some applications. The perfect example of this is HyperCard, with its XCMDs and XFCNs. This is how the MacMag virus was transmitted.

KNOWN VIRUSES

The Scores Virus

You can be almost positive your system has been infected by the Scores virus if the icons of your Note Pad file and Scrapbook file look like document icons instead of system icons. Launch ResEdit and look in your System folder. If you see files called "Desktop" and "Scores" you can be 99% sure that you have the Scores virus.

How Scores Spreads and What It Does

The Scores virus is relatively harmless. The initial infection is caused by an application with a modified CODE ID = 0 resource, and an additional CODE resource (first unused ID number plus 1). When the 'carrier' application is launched, the CODE ID = 0 resource runs the virus installer code. This code checks for previous installation of the Scores virus. If the virus is not there, the virus files are installed. The virus consists of three INITs, one atpl, and one DATA resource found in the files listed below:

If the Note Pad and Scrapbook files do not exist, they are created. If they exist, the type and creator of the files are altered to those listed above, and the corresponding resources are added to the files. The files still appear to function normally with the Note Pad and Scrapbook DAs, but their icons change to document icons. The Desktop and Scores files are invisible, and are created during the infection process.

The next time the infected system is rebooted, the INITs are loaded into memory and are ready to infect other applications. The INITs install a VBL task that actually modifies and installs resources into an application. After an application has been launched, an internal timer is started. Somewhere between two and three minutes later, the open application is infected and becomes a carrier. A new CODE resource is added to the infected application, and the application's CODE ID = 0 resource is modified to execute the new CODE resource first, then continues with the application.

To determine if an application is infected, examine the CODE ID = 0 resource. If the eleventh word of the resource (third word on the third line in the ResEdit listing) is NOT "0001", the application is suspect. If the third word is something other than "0001", convert the value to its decimal equivalent (the numbers are in hexadecimal). Then determine the resource number of the CODE resource at the top of the ResEdit resource list. If these numbers are the same, the application is probably infected, and should be replaced. Some applications will appear to be infected even though they are not. If the eleventh word of CODE ID = 0 is not 1, check the tenth word; if it is '4EED' the application is most likely not infected.

FILE	TYPE	CREATOR	RESOURCES	SIZE
Desktop (invisible)	INIT	FNDR	atpl ID = 128	2410 bytes
DATA ID = -4001				7026 bytes
INIT ID = 10				1020 bytes
Note Pad File	INIT	ZSYS	INIT ID = 6	772 bytes
Scores (invisible)	RDEV	ZSYS	atpl ID = 128	2410 bytes
DATA ID = -4001				7026 bytes
INIT ID = 10				1020 bytes
Scrapbook File	RDEV	ZSYS	INIT ID = 6	772 bytes
ID = 17				480 bytes
System File	ZSYS	MACS	atpl ID = 128	2410 bytes
DATA ID = -4001				7026 bytes
INIT ID = 6				772 bytes
INIT ID = 10				1020 bytes
INIT ID = 17				480 bytes

VIRUS REPORT

THE SCORES VIRUS A Computer virus commonly known as SCORES has appeared in the Macintosh community and confirmed in several Apple and non-Apple locations Worldwide.

The virus is harmful and can cause a variety of problems. The SCORES virus can attach itself to applications, and files located in the system folder. It doesn't appear to infect document files or stacks.

Apple has developed a detection tool called Virus Rx to determine whether or not the virus is present and what applications have been infected.

Please distribute this detection program freely. Inquiries concerning viruses should be handled through normal technical support channels.

How to Get Rid of the Scores Virus

It is not hard to remove this virus from a system, but it may take some time. Here's how:

1. Use Font/DA Mover to copy all fonts and DAs that you do not have backups of to font and DA suitcase files (this virus does not attach itself to DAs).
2. Start the system from a locked, not infected, floppy disk.
3. Throw away the System folder on the infected disk.
4. Use ResEdit to identify all suspect applications on the infected disk.
5. Make a list of all suspect applications.
6. Throw all suspect applications in the trash, and empty the trash.
7. Reinstall the system software from a known good System Tools Installer Disk.
8. Using locked masters, recopy any applications that were deleted from the infected disk (it is important to verify that the master disks have not been infected).
9. You're all done.

MacMagVirus: We don't have much information regarding the MacMag virus. It was apparently uploaded to CompuServe, inside a HyperCard stack, in the form of an XCMD, and it installed an INIT ID = 6 with a name of 'RR'. Its sole purpose in life was to display a "universal message of peace" on your computer on March 2, 1988. The virus removed itself after displaying this message and should be of little concern now.

SAFEGUARDING YOUR SYSTEMS

What Makes Our System Susceptible to Viruses

The various mechanisms described in part 2 of this article make our system easy to infiltrate by a virus. Remember that it is those same mechanisms that add to the flexibility and "look and feel" of the Macintosh.

For instance, the INIT mechanism is used by mail systems to load their code in. AppleShare uses the INIT mechanism to mount network volumes at boot time.

Why Vaccine Works in This Case, But Is Easy to Bypass

Vaccine, a public domain INIT written to block viruses, does a good job of alerting you when the three known viruses are trying to infect your system. The problem with Vaccine: once a cure is found for one set of viruses, a new strain may appear that knows how to bypass the existing defenses.

SOME SUGGESTIONS

LOCK YOUR MASTER DISKETTES

Always keep original "Master" disks locked. This prevents a virus from spreading to your original disks. Our disk locking mechanism is hardware based -- viruses can't infect locked disks!

PROTECT YOUR NETWORKS

Network administrators should not allow just anyone to put software on the server. Applications on a network server should come only from known good masters.

BE WARY OF PUBLIC DOMAIN SOFTWARE

Public domain software should be checked quite thoroughly on a floppy-based system for any infections before being copied to a hard disk based system. This will also protect you from any "Trojan Horse" programs such as "Sexy Ladies."

QUARANTINE INFECTED SYSTEMS

If you identify a system as being infected with a virus, immediately isolate (quarantine) it from other systems. This means disconnecting it from any network and not allowing anyone to take any files from the exposed system to another system. Once the system has been 'disinfected,' you can allow the files to be copied or moved.

USE RESEDIT

ResEdit is a good tool to look for viruses on your disks. There is very little that can be hidden from ResEdit, so you can use it to remove troublemaking files and resources.

IMPORTANT:

Beware of "Sexy Ladies" Program

Watch out for a Trojan Horse program that was distributed at MacWorld in January 1988. It's called "Sexy Ladies". When you run the program, it puts an abusive message on your screen, then ERASES your hard drive. It was distributed on a floppy named "PD".

Since these kinds of pranks seem to be a growth industry, we strongly recommend that you:

KNOW THE SOURCE OF AN APPLICATION BEFORE USING IT • TRY OUT ANY DUBIOUS PROGRAMS ON A TEST SYSTEM

Vaccine Installation Instructions

Vaccine is a CDEV (Control panel DEVice). Install Vaccine by putting it into the System Folder of your boot disk. Reboot your Macintosh then go to the Control Panel in your desk accessory menu. Scroll down until you see the Vaccine Icon and select it. For further instructions press your mouse in the appropriate place.

BACK 4 UP

ESSENTIAL DATA DUPLICATOR

Back up your copy-protected disks with **ESSENTIAL Data Duplicator 4 PLUS** ■ **EDD 4 PLUS** is new technology, not just 'another' copy program. The **EDD 4 PLUS** program uses a specially designed hardware card which works with your disk drives to back up disks by accurately copying the bits of data from each track. Don't be fooled . . . no other copy-program/system for Apples can do this! ■ In addition to backing up disks, **EDD 4 PLUS includes several useful** utilities such as examining disk drives, certifying disks, displaying drive speed rpm's, plus more! ■ **EDD 4 PLUS** runs on Apple II, II Plus (including most compatibles), and IIe, and is priced at $190.00 (duodisk/ unidisk 5.25 owners must add $32.00 for a special cable adapter). ■ A standard **EDD 4** version which doesn't include any hardware is available, and can be used on Apple IIc and III (using emulations mode) and is priced at $125.00.

■ Bankcard and Master card accepted by phone. Add $3.00 to all orders for postage and handling.

All orders must be prepaid.

WARNING: EDD is sold for making archival copies only.

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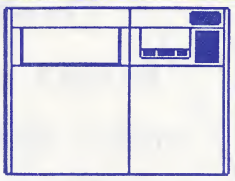

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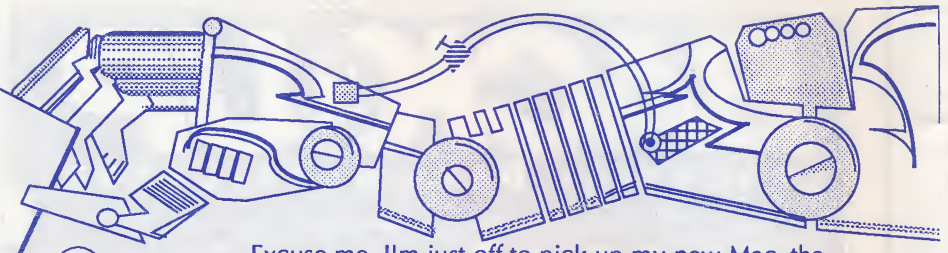
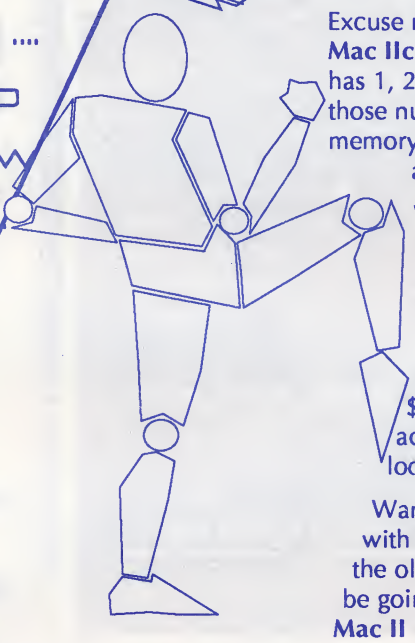
Don't forget your article for next month's issue .... I'll be 'round to get it tomorrow – the editor





Excuse me, I'm just off to pick up my new Mac, the **Mac IIci** – it's only about 15% more than the IIcx and has 1, 2, 4 and 8 bit video on board – freeing up all those nubus slots. The IIci's vedeo chip uses main memory instead of dedicated video RAM and takes advantage of 100ns or faster chips.

What else? Well let me see ... Built-in 8-bit colour video, **25MHz 68030** processor, 120-pin processor direct slot and oscillators for 3 Apple monitors.

Or how about a portable Mac 17 pound, 2Mb of RAM and a 40Mb internal hard disk for about $US6,500. The screen is a black and white active matrix display. (Clock speed ... hmmm . look for two models 16MHz and 33MHz.)

Want to hang on to your old SE – new SEs will ship with the **1.44Mb SuperDrive** – at the same prices as the old drive.Mac IIs (the common variety kind) could be going out of production – but wait for a **33MHz Mac II** model ..... real soon.

Of course these are only rumours, but don't forget _ you read it here first in AppleSauce not Mac.....

Club Public Domain Disk Prices

Apple][	$4.00
Apple][GS	$7.00
Macintosh	$8.00